



Conservation Report

NATIVE FISH SOCIETY
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By Bill Bakke, Director

COHO SALMON AND INTERMITTENT STREAMS: Coho are known to spawn in small streams and to penetrate deeply within watersheds. Intermittent streams are common environments these salmon encounter, but they are seldom associated with streams that go dry in summer. The coho spawn in these streams in the fall and the juveniles rear in residual pools when small streams dry up in the summer.

A recent study published by The Ecological Society of America found that “Residual pools in intermittent streams provided a means by which juvenile coho could survive during dry periods; smolts that overwintered in intermittent streams were larger than those from perennial streams. Movement of juvenile coho into intermittent tributaries from the mainstem was another way in which the fish exploited the habitat and illustrates the importance of maintaining accessibility for entire stream networks. Loss of intermittent stream habitat would have a negative effect on coho salmon populations in coastal drainages...”

In the western United States, over 65% of total stream length is intermittent; however, it is unclear, according to the authors, whether these streams are protected under the Clean Water Act.

The study states: “Intermittent tributaries were used by coho salmon in several ways. During 2002-2004 up to 26% of the adult coho salmon spawned in the two intermittent streams. Overwinter survival of coho salmon PIT tagged in intermittent streams during the winters of 2002 through 2005 was similar to survival rates in perennial tributaries, but higher than mainstem survival rates in all years. Coho smolts that used intermittent tributaries were larger than coho smolts that used perennial tributary habitats during both 2004 and 2005.”

The authors concluded that: "Our results demonstrate that loss of intermittent stream habitat would have a negative effect on coho salmon populations in coastal drainages, and in general, our study illustrates the important role that intermittent streams can play in maintaining the biological integrity of navigable waters.

Source:

P.J. Wigington Jr., J.L. Ebersole, M.E. Colvin, S.G. Leibowitz, B. Miller, B. Hansen, H.R. Lavigne, D. White, J.P. Baker, M.R. Church, J.R. Brooks, M.A. Cairns, and J.E. Compton. 2006. Coho salmon dependence on intermittent streams. *The Ecological Society of America* 4(10): 513-518.

FISH EXTINCTION AFFECTS STREAM NUTRIENTS: Overfishing can cause nutrient degradation important for ecosystem support and productivity. Research conducted by scientists at Cornell University and Wright State University said: "A fish is a fairly efficient recycler of nutrients. It eats food and digests it, and then it excretes nitrogen, phosphorous and other nutrients in a dissolved form that other organisms can rapidly use. Such recycling is an important part of aquatic ecosystems, and the degree of recycling differs from species to species. So if certain fish disappear, the effects could be profound."

They found that the extinction of the rarest species had little effect on nutrient recycling, but fish size and position in the food chain did make a difference. The extinction of the most fished species, however, had greater effects, causing the fastest declines in nutrient recycling. Yet, it was found that if these fish were allowed to increase the impact to nutrient enrichment was moderated.

The researchers say, "The study points to how complex species-rich environments to be concerned about the effects of overfishing."

"It is unknown whether surviving species can truly compensate for extinctions. In a study of two species of fish in the Venezuelan river that eat mud from the river bottom, the rarer of the two species was unable to make up for the loss of the more common one. Thus, it appears that human overfishing of the common species may have large effects on the ecosystem, in part because of its large contribution to nitrogen recycling," said the researchers.

See more at:

<http://www.stevenspublishing.com/stevens/wwwpub.nsf/d3d5b4f938b22b6e8625670c006dbc58/c2c81a550c45693f862572960074e98a?opendocument>

NFS COMMENTS ON OREGON'S COASTAL COHO RECOVERY PLAN TO THE OREGON FISH AND WILDLIFE COMMISSION: The Native Fish

Society would like to offer the following comments pertaining to the proposed Coastal Coho Conservation Plan. As you know, we have participated as members of the CCCP Advisory Committee for the past three years and have submitted substantive comments to staff on several occasions.

First, we would like to acknowledge the hard work staff has put into formulating the plan. I am sure it was particularly challenging to work with a diverse group of stakeholders engaging widely divergent viewpoints.

We see some encouraging aspects to the plan such as the termination of hatchery coho releases in the Salmon River. Hopefully, funding will be appropriated for an honest evaluation of this management change in order to better guide future decisions in other watersheds, notably the Umpqua and Trask Rivers.

While we see the plan establishing some benchmarks for evaluating the future health of coastal coho, the plan does not adequately integrate proposed monitoring and evaluation with an ecosystem perspective. And even though the Department has little management authority over various habitat components, it is a serious shortcoming that the proposed rules do little to exercise the Department's important advisory role to other state agencies as anticipated by the Native Fish Conservation Policy.

Among other things, it is a fundamental assumption of the rules that habitat conditions will not degrade over time but will actually improve if we essentially "stay the course" with our forest and agricultural practices, as well as all important land use laws. Unfortunately, changes are occurring that have the likely potential to further degrade critical habitat, thereby undermining the state's assumptions. For example, the Oregon Legislature is currently considering at least two bills that would effectively turn our state forests into industrial tree farms. Uncertainty surrounding Measure 37 is also seriously clouding the state's unrealistically optimistic outlook thereby creating a credible threat to future habitat recovery efforts.

Comments from entities such as the Technical Recovery Team, EPA and others have also questioned the adequacy of Oregon's Forest Practices Act, as well as the complete absence of agricultural rules intended to protect habitat beyond water quality. Habitats impacted by these industrial uses are critical to improving overwintering habitat so reliance on voluntary efforts alone to restore degraded habitats is questionable at best. It is our view that a combination of voluntary actions, improved regulations and financial incentives are essential for success.

Others have also brought up the issue of a lack of peer review as required by the NFCP. It appears the state is creatively suggesting that comments received as part of the public comment process constitute "peer review". Even if this argument were construed liberally, the state has failed to respond to this "review" thus negating the intent and purpose of a valid peer review process.

The lack of response was clearly noted at the last TRT meeting in January 2007. It appears that the state is advancing the argument that taking public comment (and for the most part "staying the course") without responding in a non-political fashion constitutes "peer review." This approach is absurd and flies in the face of the NFCP and the commonly accepted meaning of "peer review".

Of course, the state also adopted its Viability Assessment without proper review thereby undermining the fundamental hypothesis underlying the CCCP. Clearly, no credible external scientific body outright supports either the assessment or the plan but have alternatively expressed concerns that should have been rectified prior to commission review and/or approval.

Furthermore, one of several concerns we expressed when the commission adopted the NFCP was that it deferred specific management plans and standards unnecessarily into the future. Unfortunately, the CCCP does relatively little more under the guise of "adaptive management". The state's interpretation of "adaptive management" is akin to its concoction of "peer review".

Again, the commonly accepted view of "adaptive management" does not coincide with a "let's figure it out later" approach. "Adaptive management" requires a plan with clear goals and a viable pathway with specifics for achieving such goals with the assumption that the specifics may change based upon a well thought out and adequately funded monitoring and evaluation program. It is our view that the state is in fact alternatively engaging in "procrastinative management" for lack of a better term.

We are therefore asking that the commission direct staff to return to the proverbial drawing board and incorporate changes based upon comments received from the TRT, EPA, IMST, NOAA and other entities with recognized scientific expertise. The artificial timeline being imposed by the state is unfortunate and can only be construed as political in nature. While we appreciate the governor's attempt to rejuvenate the so-called "core team" for implementation purposes, it falls short of creating sound policy.

On March 16, 2007 the ODFW commission adopted the staff recommended coho plan. NFS and many other wild coho advocates have sued NMFS over its failure to list the wild coho as an ESA protected species beginning on April 16th.

Les Helgeson, NFS, 3-16-07

SALMON BILL INTRODUCED IN CONGRESS: Representative Jim McDermott (D-WA) and Rep. Tom Petri (R-WI) introduced the Salmon Economic Analysis and Planning Act (SEAPA). The focus of this bill is Snake River salmon and steelhead, but unlike a similar bill that did not make it through the last Congress, this bill does not call for removing the four federal dams on the mainstem Snake River. This bill calls for yet more economic and scientific studies. Whether these studies contribute to action by Congress is anyone's guess. In a news release McDermott said the bill "...calls on the government Accountability Office and the National Academy of Sciences to review all options for salmon recovery..." The issue of Snake River salmon recovery has split the Democrats in Washington. Senators Maria Cantwell and Patty Murray support the dams as a source of energy, and called for plans that do not result in breaching the dams. Judge Redden continues to demand a credible salmon recovery plan from NMFS, but so far none of the plans have been sufficient to protect the wild salmon. Snake River chinook were listed as a threatened species in 1991. In the 16 years since then the NMFS has not developed a recovery plan even though the region has spent about \$6 billion on salmon recovery. While progress has been made, the Snake River wild salmon and steelhead continue to decline and are even greater risk of extinction.

It is obvious that wild salmonids cannot cope with the mortality imposed by the dams on both juveniles and adults during years of drought and poor ocean survival. All the investment in technological solutions cannot compensate for environmental conditions.

The NMFS allows a by-catch of ESA-listed salmon and steelhead in order to harvest hatchery fish in commercial, tribal and recreational fisheries, but have not evaluated the harvest impacts on recovery. The NMFS also promotes the release of hatchery fish that contribute to competition, predation impacts on wild salmon as well as degrading the fitness of wild salmonids when hatchery and wild fish interbreed. Habitat outside of wilderness areas continues to degrade, reducing the productive capacity of rivers where wild salmon spawn and rear. The combination of these factors makes recovery of upper Columbia and Snake River salmonid populations as well as those below all the dams highly uncertain. It would be difficult to visualize a more successful salmon and steelhead extinction program than the one now in place.

The state and federal agencies view salmon and their habitat as a commodity to be utilized. The agencies regulate competing users and are organized to serve their constituencies. Consequently, all of us are competing with salmon for their

historic habitats and their productivity is declining. As long as salmon and their habitats are considered a commodity, the wild salmon do not have a future. John Livingston said, "Once a thing is perceived as having some utility - any utility - and is thus perceived as a "resource," its depletion is only a matter of time." (Livingston, John A.. 1982. *The Fallacy of Wildlife Conservation*, McClelland and Stewart, Toronto, Canada, page 43)

Congress is unlikely to effectively address this fundamental problem in their next study, and even if they did, it would be very unpopular politically to make the necessary adjustments in the institutional structure of government to make room for salmon.

WILD STEELHEAD STATUS DESCHUTES AND JOHN DAY RIVERS

Introduction:

The following is a brief status assessment taken from the draft recovery plan for the Middle Columbia River steelhead. These wild, native fish are listed as a threatened species under the ESA. This assessment was written by Richard W. Carmichael (ODFW) for review by the Interior Columbia Technical Recovery Team. While this status assessment is preliminary it will be finalized following agency and public review.

This draft status review represents the first time wild, native steelhead populations in Mid-Columbia tributaries in the states of Oregon and Washington have been investigated in terms of their health and viability.

The Deschutes and John Day rivers are featured below because it is important for people concerned about wild steelhead in these two rivers to have some specific science based information on their condition and problems. In this brief summary you will see the wild steelhead are not doing well. The future of these valuable streams and the important fisheries they support is uncertain and at the same time dependent upon our good stewardship.

DESCHUTES RIVER

EAST SIDE TRIBUTARY POPULATIONS

Principle Spawning Areas:

Buckhollow Creek, Bakeoven Cr., and Trout Cr.

Overall Viability Rating: Not Viable

- Moderate risk of extinction
- Productivity/Abundance - moderate risk
- Spatial Structure/Diversity - moderate risk
- The primary risks are associated with degraded habitat causing life history and phenotypic changes and out-of-ESU hatchery steelhead strays from Snake River hatchery programs.

“The overall rating for the Deschutes River Eastside population does not meet the Interior Columbia Technical Review Team recommendations for viability. The 10-year geomean of natural fish abundance of 1,579 is well above the threshold of 1,000 spawners. The point estimate of productivity (a measurement of adult to adult recruits per spawner - 1.78 average) is above the minimum required at threshold abundance; however the adjusted error term extends well below the 25% risk level. This wide standard error results in a moderate risk level for abundance/productivity. The spatial structure/diversity rating is moderate risk. This is primarily a result of the influence of habitat changes on life history and phenotypic expression as well as out-of-ESU hatchery strays.”

WEST SIDE TRIBUTARY POPULATIONS

Principle Spawning Areas:

Warm Springs River, Shitike Creek, Deschutes River

Overall Viability Rating: Not Viable

- Moderate risk of extinction
- Productivity/Abundance - moderate risk
- Spatial Structure/Diversity - moderate risk

“A substantial increase in productivity will be required to raise the productivity value to the low risk level. The 10-year geometric mean abundance of 410 spawners is well below the minimum threshold of 1,000 spawners for an intermediate size population. A reduction in the out-of-basin ESU hatchery stray proportion will be needed to reduce the risk rating for this spawner composition...” The primary sources of hatchery strays are from Snake River hatchery programs.

JOHN DAY RIVER

LOWER JOHN DAY RIVER TRIBUTARY POPULATIONS

Principle Spawning Areas:

Rock Creek, Thirtymile Creek, Bridge Creek, Service Creek, Mountain Creek, and Butte Creek.

Overall Viability Rating: Not Viable

- Abundance/Productivity – moderate risk
- Spatial Structure/Diversity – moderate risk

“To achieve a viable rating this population must improve in abundance, productivity and spatial structure and diversity. Out of-ESU origin spawners are the most influential factor on diversity risk.” The primary sources of strays are from Snake River hatchery programs. “

NORTH FORK JOHN DAY RIVER

Principle Spawning Areas:

Spawning is distributed broadly throughout the North Fork Basin including mainstem areas of Cottonwood, Camas, Desolation, and Granite Creeks, the upper North Fork John Day Rivers as well as in many tributaries.

Overall Viability Rating: Highly Viable

- Abundance/Productivity – very low risk
- Spatial Structure/Diversity – low risk

“There is considerable uncertainty regarding the genetic effect of out-of-ESU hatchery strays as well as the actual proportion of natural spawners that are hatchery strays. Enhanced monitoring efforts should be undertaken to develop better estimates of the composition of North Fork John Day spawners.”

MIDDLE FORK JOHN DAY RIVER

Principle Spawning Areas:

Beaver Creek, Camp Creek, Deep Creek, Lick Creek, and many more tributaries are used for spawning.

Overall Viability Rating: Not Viable

- Abundance/Productivity – moderate risk for abundance, low risk for productivity.
- Spatial Structure/Diversity – low risk

“The 10-year geometric mean abundance of 756 spawners is below the minimum 1,000 spawner threshold. The productivity point estimated of 1.93 ... met the low risk criteria. Increased annual abundance would allow this population to achieve a risk rating of low for abundance/productivity and raise the overall viability rating to viable.”

“The majority of stray hatchery fish originate from Snake River hatcheries. Given that the hatchery fraction of out-of-ESU strays is estimated to be greater than 0.05 for two or more generations, the rating is high risk for this metric.

SOUTH FORK JOHN DAY RIVER

Principle Spawning Areas:

Mainstem South Fork John Day River, Murderers Creek, and Canyon Creek.

Overall Viability Rating: Not Viable

- Abundance/Productivity – moderate risk
- Spatial Structure/Diversity – low risk

“Increased productivity in combination with abundance will allow this population to achieve a viable status... Although the population received a Spatial Structure/Diversity rating of low risk, there is considerable uncertainty surrounding the spawner composition data. Enhanced monitoring of the hatchery-wild ratios on the South Fork spawning grounds should be conducted to improve the hatchery fraction estimate and reduce the degree of uncertainty.”

“...most of the strays are from Snake River hatcheries. Given the level and duration of strays, the population rated at high risk for this metric.”

UPPER JOHN DAY RIVER

Principle Spawning Areas:

Upper John Day River, Canyon Creek, Beech Creek and numerous tributaries from Dayville upstream to the headwaters.

Overall Viability Rating: Not Viable

- Abundance/Productivity - moderate risk
- Spatial Structure/Diversity - moderate risk

“The overall rating for the Upper John Day steelhead population does not currently meet the...recommended viability criteria. The 10-year geometric mean abundance of 524 spawners is well below the goal of 1,000. The productivity point estimate of 1.73 is near the minimum needed at an abundance of 1,000, however the lower end of the adjusted standard for this population the 25% risk level. Increases in productivity and abundance are needed for this population to achieve viable Abundance/Productivity criteria. In addition, the Spatial Structure/Diversity rating was moderate due to loss in life history diversity and high risk for spawner composition.”

“We have rated this metric for life history diversity as moderate risk because of the significant loss of summer rearing in the upper mainstem and tributaries.”

“Given that the hatchery fraction of out-of-ESU hatchery strays is estimated to be greater than 0.05 for two or more generations, the risk rating is high for this metric.”

Source:

Carmichael, Richard, W. January 2006. Draft Recovery Plan for Oregon's Middle Columbia Steelhead, Progress Report. ODFW. La Grande, Oregon.